

DRAFTFebruary 15, 2006
Project No. 05-8520 EA**SUPPLEMENTAL SAMPLING PLAN
CENTEX HOMES -STERLING HOMES SITE
WEST HILLS, CA****BACKGROUND**

Allwest Remediation Inc., (Allwest) began conducting a Preliminary Endangerment Assessment (PEA) and Site Characterization of the Centex Homes - Sterling Homes property (site) on September 20, 2005, under the oversight of the Department of Toxic Substances Control (DTSC). The PEA portion of the investigation consisted of the site wide collection and analysis of soil samples, surface water samples, and soil gas samples. Samples were analyzed for the following chemicals of concern: perchlorate, CAM metals, hydrazine, dioxins, polyaromatic hydrocarbons, and volatile organic compounds (VOCs). In addition, a radiological survey, including sampling, to determine background levels of radioactivity was completed.

The site characterization phase involved the investigation to delineate the extent of contamination in areas of the lower and upper portion of the Dayton Creek bed where perchlorate was previously detected. This investigation identified several areas where perchlorate was detected within the creek bed, with concentrations up to 2,100 mg/kg. The perchlorate was generally detected in near surface soil as deep as 3 feet below ground surface. Due to the high solubility of perchlorate and the potential of winter rains washing perchlorate down Dayton Creek, a time critical removal action was planned for seven separate areas within the creek bed. A *Proposed Time Critical Removal Action Workplan*, dated November 28, 2005, was prepared with the objective of removing contaminated soil from the creek bed prior to any stream flow caused by rain. The removal action was to be completed following review and approval of the workplan by the Department of Fish and Game and a subsequent public comment period.

The vicinity of the Sterling Homes site received significant rain and stream flow prior to the commencement of the removal action. After the rain, soil within the creek bed was sampled to evaluate if the stream flow had an effect on the distribution of perchlorate in the proposed removal areas. The site received approximately three inches of rain between December 29, 2005, and January 2, 2006. On January 4 and January 5, 2006, soil samples were collected from the proposed removal areas within the creek bed, and from areas directly downstream of the proposed removal areas. No perchlorate was detected in any of the samples, appearing to indicate that the stream flow had caused the migration of perchlorate away from the surface soil where it had been previously detected.

Purpose and Objectives

The purpose of the proposed supplemental sampling program is to assess the distribution of perchlorate within the lower Dayton Creek area after the rainy season, to evaluate how stream flow within the creek has affected the distribution of perchlorate, and to determine if perchlorate is still present in soil within the creek bed. The objectives of this plan are to:

- Determine if perchlorate is still present within the proposed removal areas, or has migrated to other portions of lower Dayton Canyon Creek.
- Evaluate if perchlorate had migrated deeper in the creek bed soil by sampling to 5 feet below ground surface.
- Evaluate whether perchlorate is present in deep soils in the lower Dayton Creek area.
- Determine if perchlorate or VOC's are present in groundwater near the Dayton Canyon Creek Area.

Although perchlorate was detected in creek bed soils, VOCs have not been detected in soil or soil gas at the Sterling Homes site. However, the Sterling Homes site is located downhill and adjacent to the Santa Susana Field Laboratory where VOCs releases have been documented. Consequently, VOC's analytical testing of groundwater is included in this work plan.

Scope of Work

The scope of work for this proposal includes the collection and analysis of soil and groundwater samples to characterize perchlorate concentrations in the lower Dayton Creek area, as well as groundwater analytical testing for VOCs. The work will be performed by Allwest under DTSC oversight. The scope of work for the proposed supplemental sampling program is described below:

- Creek channel and bank soil samples will be collected at approximately 200' intervals in lower Dayton Creek from Valley Circle to just west of the stop sign, as shown in Figure 1. The areas to be sampled will include the previously designated removal areas (RA-1 through RA-5). Samples will be collected from the creek channel and bank at depths of 0', 3' and 5' bgs, using a backhoe. Each sampling point will be excavated, sampled, and the material replaced and compacted. Samples will be analyzed for perchlorate using USEPA Method 314.0. All excavation activities in the creek will be completed in compliance with the requirements of the existing California Department of Fish and Game permits for the site. A total of twenty Post Investigation (PI) areas will be sampled by excavation, as shown in Figure 1. Information regarding these samples is presented in Table 1.
- One temporary ground water collection point (HSB-1) will be installed using a hollow-stem auger as shown in Figure 1. The purpose of the temporary collection point will be to determine the depth of ground water at the site and to analyze a sample from the water bearing unit for perchlorate and VOC, including

Trichloroethylene. During installation, soil samples will be collected at five-foot intervals for perchlorate analysis. It is anticipated that the temporary ground water collection point will be installed at a depth of approximately 50 to 60 feet bgs. The collection point will consist of a 10-inch diameter boring with a 4 inch slotted PVC pipe installed in the water bearing zone. The annular space will be filled with sand to serve as a filter pack and allow for the collection of a relatively clear groundwater sample. The ground water level will be measured using an electronic measuring tape. The well will be purged using a bailer and electric submersible pump, until a relatively low turbidity groundwater sample can be obtained. A groundwater sample will then be collected with a disposable bailer and submitted for analytical testing for perchlorate using USEPA Method 314.0 and VOCs using USEPA Method 8260b. Necessary permits will be obtained from the City of Los Angeles. Table 1 provides a summary of the proposed ground water collection and analysis activities.

- In addition to the temporary ground water collection point (HSB-1) described above, four additional shallow hollow-stem auger borings will be installed along the lower creek in the general locations shown in Figure 1. Actual boring locations will be determined in the field in conjunction with DTSC staff, and will be based on equipment access and locating the boring to minimize disturbance to the surrounding trees. The shallow soil borings HSB-2 through HSB-5 will be drilled to depths of approximately 30' bgs in, or adjacent to the creek, as shown in Figure 1. The borings will be sampled at five foot intervals, and analyzed for perchlorate using USEPA Method 314.0, as shown in Table 1. If groundwater is encountered in these areas, temporary ground water collection points will be installed and groundwater samples will be collected for perchlorate and VOC analytical testing. The temporary ground water collection points will be constructed and sampled as described above.
- All temporary groundwater collection boreholes will be abandoned and sealed by backfilling with bentonite slurry and bentonite chips.

SCHEDULE

The sampling activities described above will be initiated at the conclusion of the DTSC's proposed public comment period. The anticipated schedule presented below is preliminary and subject to change.

- February 24, 2006 – Draft work plan completed and posted on DTSC website, beginning of public review and comment.
- March 7, 2006 – Draft workplan presented at public meeting, opportunity for public comment.
- March 21, 2006 – End of public comment period, workplan finalized.
- March 27, 2006 – Begin deep boring to collect groundwater and soil samples.
- April 3, 2006 – Begin 30 foot borings to evaluate perchlorate distribution in deep soil near lower Dayton Creek.
- April 17, 2006 or upon conclusion of rainy season – Begin soil sampling in lower Dayton Creek creek bed.

- May 1, 2006 – Analytical data available from laboratory.
- May 15, 2006 – Draft report presenting data prepared.

Sincerely,



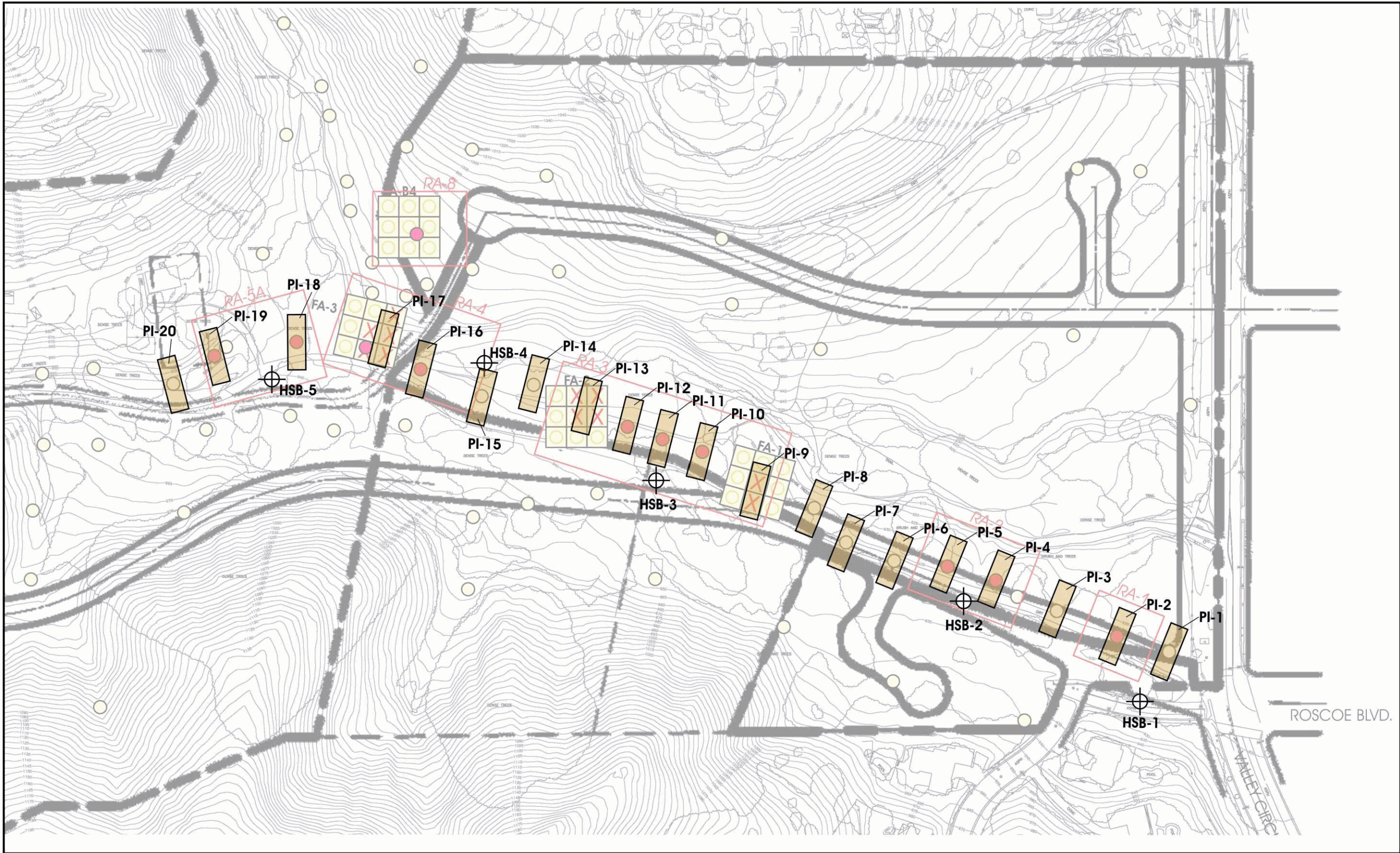
Richard Scott
Operations Manager

CC: John Fitzpatrick (Centex Homes)

ATTACHMENTS:

Figure 1 – Proposed Supplemental Sampling Locations

Table 1 – Proposed Post-investigation Samples






MAP LOCATION

LEGEND

- PERCHLORATE NOT DETECTED (SAMPLES COLLECTED 9/20/05-11/29/05)
- PERCHLORATE DETECTED (SAMPLES COLLECTED 9/20/05-11/29/05)

- ADDITIONAL CREEK CHANNEL AND BANK SAMPLE (NOT ACTUAL SIZE)*
- PROPOSED HOLLOW-STEM AUGER BORING LOCATION

*PROPOSED TRENCH SITE 18"x15'x5'

PROPOSED SUPPLEMENTAL SAMPLING LOCATIONS
STERLING HOMES
WEST HILLS, CA

ALLWEST REMEDIATION

JOB NO. 05 8520
DATE: FEB 2006
FIGURE NO. 1

TABLE ONE
PROPOSED SUPPLEMENTAL SAMPLES AND ANALYTICAL PARAMETERS

BACKHOE SAMPLES

Sample I.D.	Location Description	Sample Type	Sample Depths	Analyte
PI-1	Lower Creek	B, C	0, 3, 5	Perchlorate
PI-2	Removal Area 1	B, C	0, 3, 5	Perchlorate
PI-3	Lower Creek	B, C	0, 3, 5	Perchlorate
PI-4	Removal Area 2	B, C	0, 3, 5	Perchlorate
PI-5	Lower Creek	B, C	0, 3, 5	Perchlorate
PI-6	Lower Creek	B, C	0, 3, 5	Perchlorate
PI-7	Lower Creek	B, C	0, 3, 5	Perchlorate
PI-8	Lower Creek	B, C	0, 3, 5	Perchlorate
PI-9	Removal Area 3	B, C	0, 3, 5	Perchlorate
PI-10	Removal Area 3	B, C	0, 3, 5	Perchlorate
PI-11	Removal Area 3	B, C	0, 3, 5	Perchlorate
PI-12	Removal Area 3	B, C	0, 3, 5	Perchlorate
PI-13	Removal Area 3	B, C	0, 3, 5	Perchlorate
PI-14	Lower Creek	B, C	0, 3, 5	Perchlorate
PI-15	Lower Creek	B, C	0, 3, 5	Perchlorate
PI-16	Removal Area 4	B, C	0, 3, 5	Perchlorate
PI-17	Removal Area 4	B, C	0, 3, 5	Perchlorate
PI-18	Removal Area 5	B, C	0, 3, 5	Perchlorate
PI-19	Removal Area 5	B, C	0, 3, 5	Perchlorate
PI-20	Lower Creek	B, C	0, 3, 5	Perchlorate

HOLLOW-STEM AUGER BORINGS

Sample I.D.	Location Description	Sample Type	Sample Depth	Analyte
HSB-1	Near site entrance	S, W ₁	0, 3, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60	Perchlorate, VOC
HSB-2	15' south of Lower Creek	S, W ₁	0, 3, 5, 10, 15, 20, 25, 30	Perchlorate, VOC
HSB-3	15' south of Lower Creek	S, W ₁	0, 3, 5, 10, 15, 20, 25, 30	Perchlorate, VOC
HSB-4	15' north of Lower Creek	S, W ₁	0, 3, 5, 10, 15, 20, 25, 30	Perchlorate, VOC
HSB-5	15' south of Lower Creek	S, W ₁	0, 3, 5, 10, 15, 20, 25, 30	Perchlorate, VOC

B - Creek bank sediment sample
C - Creek channel sediment sample
S - In-situ soil sample
W₁ - Water sample (if encountered)